Name _____ Date _____

LESSON 8.4

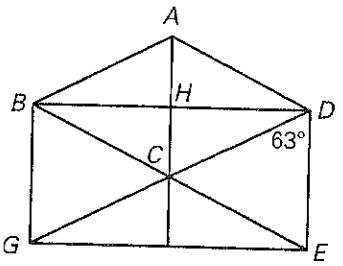
Practice C

For use with pages 533–540

Decide whether the statement is *true* or *false*. Decide whether the converse is *true* or *false*. If both statements are *true*, write a biconditional statement.

1. If a quadrilateral is a rectangle, then it is a parallelogram.
2. If a quadrilateral is a parallelogram, then it is a rhombus.
3. If a quadrilateral is a square, then it is a rhombus.
4. If a quadrilateral is a rectangle, then it is a rhombus.
5. If a rhombus is a square, then it is a rectangle.

In the diagram shown, *BDEG* is a rectangle and *ABCD* is a rhombus. Find the measure of the indicated angle.



6. $\angle GDB$
7. $\angle ABC$
8. $\angle DAB$
9. $\angle BCG$
10. $\angle GCE$
11. $\angle DEG$
12. $\angle AHB$
13. $\angle DGB$

Find the length or angle measure.

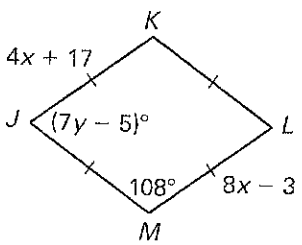
14. $WXYZ$ is a square.
    $WX = 1 - 10x$
    $YZ = 14 + 3x$
    $XY =$?

15. $WXYZ$ is a rhombus.
    $m\angle X = 24(10 - x)°$
    $m\angle Z = 6(x + 15)°$
    $m\angle Y =$?

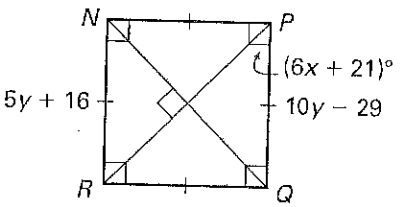
16. $WXYZ$ is a rectangle.
    Perimeter of $\triangle XYZ = 24$
    $XZ = 13 - x$
    $XY + YZ = 5x - 1$
    $WY =$?

Classify the special quadrilateral. *Explain* your reasoning. Then find the values of *x* and *y*.

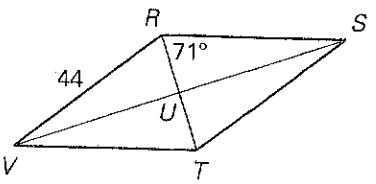
17.



18.



The diagonals of rhombus *RSTV* intersect at *U*. Given that $m\angle URS = 71°$ and $RV = 44$, find the indicated measure.



19. $m\angle URV$
20. $m\angle RVT$
21. RT
22. SU

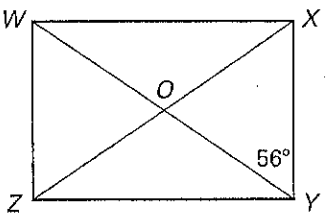
Name _____ Date _____

LESSON 8.4

Practice C *continued*

For use 533–540

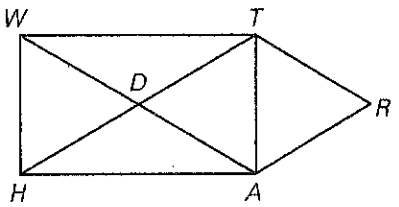
The diagonals of rectangle *WXYZ* intersect at *O*. Given that $m\angle XYW = 56°$ and $WY = 33$, find the indicated measure.



23. $m\angle XWO$ **24.** $m\angle ZOY$

25. XO **26.** WZ

27. Complete the proof.



GIVEN: *WHAT* is a parallelogram.
DART is a rhombus.

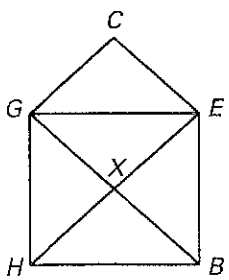
PROVE: *WHAT* is a rectangle.

Statements	Reasons
1. *WHAT* is a $\square$.	1. ?
2. $\overline{WD} \cong \overline{DA}$	2. ?
3. ?	3. Diagonals of $\square$ bisect each other.
4. ?	4. Given
5. $\overline{DT} \cong \overline{DA}$	5. ?
6. $\overline{WD} \cong \overline{HD} \cong \overline{DA} \cong \overline{DT}$	6. ?
7. ?	7. Segment Addition Postulate
8. ?	8. Substitution
9. *WHAT* is a rectangle.	9. ?

Write a two-column or paragraph proof.

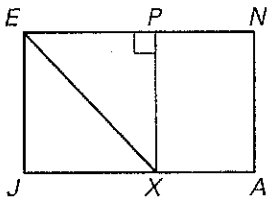
28. **GIVEN:** $\triangle GEC \cong \triangle GHX$
GEBH is a parallelogram.

PROVE: *GEBH* is a rhombus.



29. **GIVEN:** *JANE* is a parallelogram.
JXPE is a parallelogram.
$XP \perp EN$

PROVE: *JANE* is a rectangle.



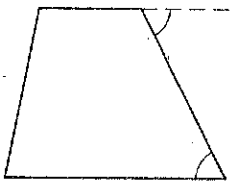
Name _____ Date _____

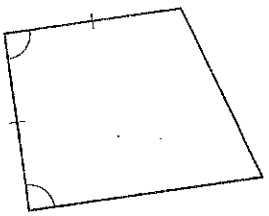
LESSON 8.5

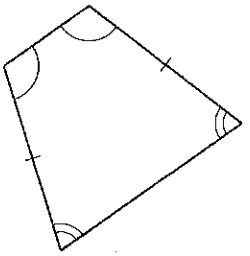
Practice C

For use with pages 541–549

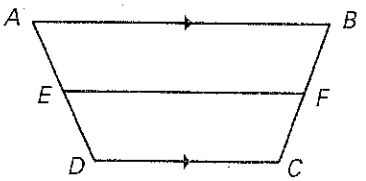
Determine whether the quadrilateral is a trapezoid. If it is, is it an isosceles trapezoid?

1. 

2. 

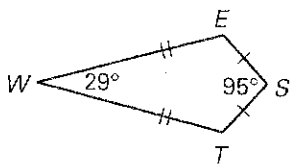
3. 

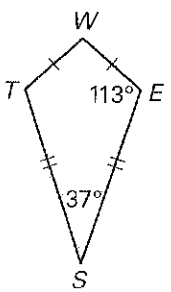
Quadrilateral *ABCD* is a trapezoid with midsegment $\overline{EF}$. Use the given information to answer the following.

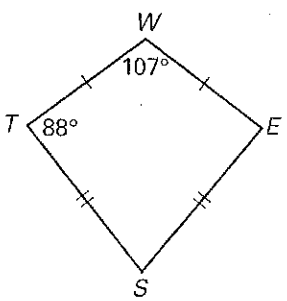


4. If $m\angle B = 73°$, then $m\angle C =$?.
5. If $m\angle A = 51°$ and $m\angle C = 105°$, then $m\angle D =$?.
6. If $m\angle A = 48°$ and $m\angle C = 112°$, then $m\angle CFE =$?.
7. If $AB = 28$ and $DC = 13$, then $EF =$?.
8. If $EF = 13$ and $DC = 6$, then $AB =$?.
9. If $EF = x + 5$ and $DC + AB = 4x + 6$, then $EF =$?.

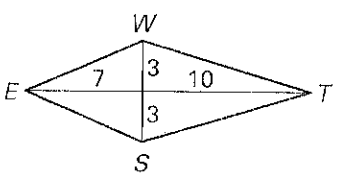
***WEST* is a kite. Find the measures of the missing angles.**

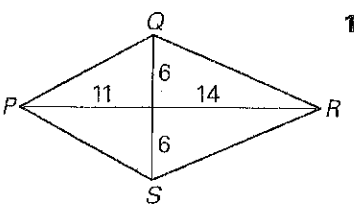
10. 

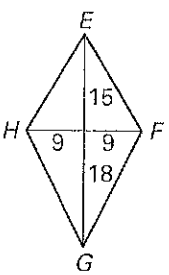
11. 

12. 

Use Theorem 8.18 and the Pythagorean Theorem to find the side lengths of the kite. Write the lengths in simplest radical form.

13. 

14. 

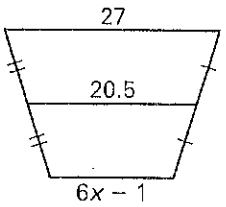
15. 

Name _____ Date _____

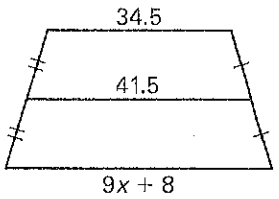
LESSON 8.5 **Practice C** *continued*
For use with pages 541–549

Find the value of *x*.

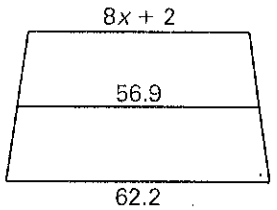
16.



17.



18.



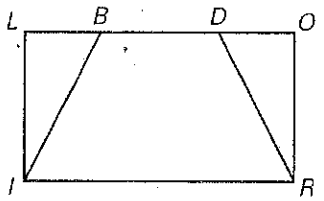
19. In an isosceles trapezoid, if one pair of base angles is twice the measure of the second pair of base angles, what are the measures of the angles?

20. If the midsegment of a trapezoid measures 6 units long, what is true about the lengths of the bases of the trapezoid?

21. Complete the proof.

GIVEN: $\overline{LORI}$ is a rectangle.
$\overline{LB} \cong \overline{DO}$

PROVE: *BIRD* is an isosceles trapezoid.



Statements	Reasons
1. *LORI* is a rectangle.	1. ?
2. $\angle ILB$ and $\angle ROB$ are right angles.	2. ?
3. ?	3. All right $\triangle$ are $\cong$.
4. $\overline{LI} \cong \overline{OR}$	4. ?
5. ?	5. Given
6. $\triangle LBI \cong \triangle ODR$	6. ?
7. ?	7. Corresponding parts of $\cong$ $\triangle$ are $\cong$.
8. ?	8. Definition of $\square$
9. *BIRD* is an isosceles trapezoid.	9. ?

22. Write a two-column or paragraph proof.

GIVEN: $\overline{AF} \not\cong \overline{BC}$
$\triangle ABC \cong \triangle CDA$

PROVE: *ABCF* is a trapezoid.